

# Clinical Practice Guideline

## Miscarriage: Management



### 1. Introduction

Miscarriage is usually a distressing experience. Emotional support and care is essential throughout the course of assessment, decision-making and treatment.

For many women diagnosed with miscarriage, more than one of the options of expectant, medication or surgical management may be appropriate. Care should include information and advice about options which are medically appropriate for each woman's particular situation and support in decision-making. In many circumstances a decision is not clinically urgent; women can be given time to come to terms with the diagnosis and reach a decision about mode of management.

Although surgical curettage has been standard care for more than 50 years, there is now good evidence that expectant and/or medication management can be appropriate and are preferable for some women. Routine curettage was predicated on a belief that to do otherwise was associated with unacceptable risks of intrauterine infection. It is likely that many of the infections seen historically in association with miscarriage resulted from illegal abortions. Access to safe legal pregnancy termination has largely solved this problem when available. Uncomplicated spontaneous miscarriage appears to be accompanied by a low risk of infection and surgical evacuation is itself accompanied by risks, including those of infection. Much of the understanding and development of treatment regimens in this area is based on or extrapolated from regimens for medication abortion.

### 2. Purpose

To guide clinicians in the care of women who have been diagnosed with a miscarriage (for assessment and diagnosis refer to CPG: Pain and Bleeding in Early Pregnancy).

### 3. Definition of terms

- **Early pregnancy:** gestation up to 13 weeks and 6 days. (Note: Women with pregnancy of gestation  $\geq 14$  completed weeks should usually be referred to the obstetric team for assessment.)
- **(R)POC:** (Retained) products of conception; this term may be used with colleagues, but another expression, such as 'pregnancy tissue' should be used with women and their families.
- **Miscarriage:** The recommended medical term for pregnancy loss under 20 weeks is 'miscarriage' in both professional and direct care contexts. The term 'abortion' should not be used. Types of miscarriages are outlined below.

#### 4. Clinical presentation and diagnosis

For assessment refer to CPG: **Pain and bleeding in early pregnancy**.

Diagnosis of miscarriage is based on confirmed passage of POCs or ultrasound findings consistent with ASUM criteria for miscarriage diagnosis.

**Missed miscarriage:** confirmed ultrasound diagnosis of miscarriage with no passage of POC, intact gestation sac in uterus: this includes 'early fetal demise' and 'blighted ovum'. ASUM (Australian Society for Ultrasound in Medicine) criteria for miscarriage diagnosis are: good quality vaginal US showing no fetal heart activity with fetal pole >6mm **or** gestation sac >20mm without fetal pole **or** lack of sac/fetal growth over defined time period.

**Incomplete miscarriage:** some POC have passed but some POC remain in the uterus. There is typically a history of pregnancy symptoms followed by an episode of heavy bleeding with passage of clots with or without recognized POC. If definite POCs are passed vaginally, management may be based on clinical grounds.

**Complete miscarriage:** clinical assessment and/or previous ultrasound examination have confirmed intrauterine pregnancy and all the POC have been passed. Completeness is only absolutely confirmed by ultrasound examination but may be a presumptive diagnosis upon visualisation of apparently complete sac with placental tissue passed PV and/or resolution of pain and vaginal bleeding.

**Hydatidiform mole** is diagnosed by ultrasound examination or histology; it should be managed by the gynaecology team and usually involves suction curettage and consultation with the oncology team regarding follow up.

**Septic miscarriage:** any type of miscarriage accompanied by evidence of intrauterine infection; urgent treatment is required (see 6.1).

#### 5. Other investigations and treatment

- Blood group, Rh and antibodies; if Rh negative anti-D should be considered and given in accordance with guidelines; in general 250IU for confirmed miscarriage after 6 weeks gestation.
- Chlamydia screen if < 25 years or otherwise indicated
- High vaginal swab for bacterial vaginosis
- Hb/FBE if indicated.
- Discussion re contraceptive needs/plan for/timing of future pregnancy; IUCD or Implanon may be inserted at time of miscarriage if appropriate.
- Emotional support; offer additional support and counseling if wanted.
- Specialist follow up if indicated for recurrent ( $\geq 3$ ) miscarriages or other medical complications.



## 6. Selecting an appropriate management method

Factors to consider:

### 6.1 Clinical symptoms and signs:

- Active pain and/or bleeding usually warrant surgery, regardless of type of miscarriage, unless miscarriage is in progress and POC can be removed from cervix at speculum examination with resolution of symptoms.
- Signs suggestive of intrauterine infection such as uterine tenderness or purulent discharge indicate prompt evacuation of the uterus, usually by surgical means and antibiotic treatment
- Increasing bleeding or pain and/or intolerance of waiting in the course of expectant or medication management may indicate surgery

In the absence of pain, heavy bleeding, or evidence of infection, the choice of treatment can be based on other factors as follows.

### 6.2 Type of miscarriage

Note: these recommendations are 'rules of thumb' based on published experience with miscarriage and medication abortion rather than conclusive evidence.

#### 6.2.1 Missed miscarriage

- Sac >30-35mm, embryo >~25mm (pregnancy size equivalent to 9+0 weeks); with increasing sac and fetal size, pain and bleeding with passage of POC are likely to increase, so surgery is recommended. Alternative methods may still be considered subject to informed choice.
- Sac 15-35mm, embryo <25mm, (pregnancy size equivalent to 7-9+0 weeks); medication, surgical or expectant management may be considered according to woman's preference.
- A sac <15-20mm (pregnancy size <7 weeks) may be difficult to find surgically with some risk of failed procedure; expectant or medication management generally preferable.

#### 6.2.2 Incomplete miscarriage

- RPOCs <15mm expectant management generally preferable, because there is a high likelihood of spontaneous expulsion without intervention.
- RPOCs >15-20mm, medical or expectant management are reasonable options. Surgery should generally only be considered if there is a specific indication.
- RPOCs>35-50mm: with increasing volumes of RPOC:
  - Administration of misoprostol to hasten passage of POCs should be encouraged;
  - Admission should be considered to observe for a few hours or overnight until the majority of the POC has passed and bleeding settled to an acceptable level;
  - Remaining POCs remain likely to pass within 24 hours, and failing that within a fortnight.
  - After apparent failure of misoprostol, speculum examination should be done prior to a decision for surgical evacuation of the uterus or discharge, as POCs may already be in the vagina.

#### 6.2.3 Complete miscarriage (empty uterus):

- Surgical and medical interventions to evacuate the uterus are contraindicated if this is a certain diagnosis
- If there is any doubt as to the location of the pregnancy, serial HCG and gynae review may be needed to exclude ectopic pregnancy

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### 6.2.4 Clinically diagnosed incomplete or complete miscarriage (passage of POCs without ultrasound examination):

- Treat according to symptoms; expectant management usually appropriate
- Ultrasound not needed unless warranted by symptoms such as persistent heavy bleeding and no further POC visible on speculum examination
- **Note:** well-developed deciduas or fibrous clot can resemble POCs; if there is any doubt at all, ensure histology is performed and followed up to exclude ectopic pregnancy.

### 6.3 Woman's preference:

#### 6.3.1 For surgery:

- wants planned procedure
- accepting of surgical and anaesthetic risks.

#### 6.3.2 For medication management:

- desire to avoid surgery and anaesthesia
- tolerance of uncertain timeline and outcome
- preparedness to cope with anticipated pain and bleeding at time of passage of POCs
- accepting of possible need for urgent curettage at later stage.

#### 6.3.3 For expectant management:

- as for medication management
- preference to avoid medication
- tolerance for longer timeline and greater uncertainty than with medication management.

### 6.4 Summary of management choice

In the absence of pain, heavy bleeding, or evidence of infection, the choice of treatment can be based on other factors as follows.

With increasing sac size there is a tend to shift the recommendation from expectant to medication to surgical management.

Sac or POCs <15mm	Usually expectant management
Sac or POCs 15-35mm, CRL<25mm	Expectant, medication or surgical management reasonable
Sac >35mm, POCs>50mm, CRL>25mm	Usually surgical management
Failed expectant management	Usually medication, sometimes surgical management
Failed medication management	Usually surgical management, sometimes repeat medication
Heavy bleeding or evidence of infection	Usually surgery unless POC in vagina



## 7. Management modalities

### 7.1 Expectant management

#### 7.1.1 Advantages:

- allows spontaneous passage of products of conception
- avoids surgical and anaesthetic risks.

#### 7.1.2 Disadvantages:

- unpredictable time frame (allow up to 2/52 for spontaneous resolution) and results
- expect ongoing pain and bleeding
- potential for requiring an emergency suction and curettage.

#### 7.1.3 Anticipated outcome

RCTs have quoted a success rate between 16-80% with expectant management for up to 6 weeks; selection criteria and management regimens widely variable.

Resolution rates higher if:

- allow 2 weeks for resolution
- miscarriage incomplete rather than missed
- lower volume of POC in uterus (diameter <50mm).

#### 7.1.4 Indications

Preferred treatment option if:

- incomplete miscarriage with POC diameter on US <15mm

Can be considered if:

- incomplete miscarriage with larger diameter POCs, up to around 35mm diameter (some studies suggest 50mm)
- missed miscarriage with sac size up to around 35mm (embryo size equivalent to < 9+0 weeks gestation)

#### 7.1.5 Preconditions:

- no active bleeding or infection
- woman's preference
- ensure woman aware of risks of pain and bleeding at home
- have contact details/plan for emergency care
- aware of uncertain time frame, possible need for later/urgent curettage
- support at home
- access to phone and medical care
- willing to participate in follow up at 1 week and 2 weeks.

#### 7.1.6 Follow up:

- Ensure contraception/future pregnancy plans discussed
- Anti D if indicated, at diagnosis of miscarriage or within 72 hours of passage of POCs.(see anti D CPG for more detail)
- Prescribe analgesia to take home, such as paracetamol with codeine
- Provide contact numbers and see for review at any time if woman concerned by symptoms etc
- Review one week, possibly initially by telephone. If POCs not passed, consider US confirmation and medication or surgical treatment options if woman wants.
- If POCs passed (or very likely on basis of history), follow up at two weeks: if UCG neg and woman asymptomatic, US not needed. If UCG pos, further management depends on US findings, may offer medication or surgical options if POCs persist.
- Advise review appointment with GP at 4-6 weeks or sooner if needed.

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### 7.2 Medication management

#### 7.2.1 Advantages:

- allows women to avoid surgical and anaesthetic risks

#### 7.2.2 Disadvantages:

- unpredictable time frame (allow up to 2/52 for spontaneous resolution) and results
- concerns with ongoing pain and bleeding
- potential for requiring an emergency suction curettage (1%)
- contra-indications to the use of Misoprostol
- potential side effects: Nausea, vomiting, diarrhoea (up to 40%).

#### 7.2.3 Anticipated outcome:

- Misoprostol, a prostaglandin analogue, is used to induce/hasten the expulsion of POCs from the uterus.
- RCTs have quoted a success rate between 50-95% with medication management for up to 2 weeks; selection criteria and management protocols widely variable.
- Resolution rates are higher than expectant management, lower than surgical management.

#### 7.2.4 Indications:

Suitable treatment option if:

- missed miscarriage with sac diameter on US <35mm (size equivalent to < 9+0 weeks gestation)
- incomplete miscarriage with POCs up to around 35mm diameter (some studies suggest 50mm)
- no contraindications to prostaglandins such as allergy, severe uncontrolled asthma

Consider for larger size uterine contents only if the woman has a strong preference for this and a clear understanding of likely unpleasant pain and bleeding and potential haemorrhage risk.

#### 7.2.5 Preconditions:

- no active bleeding or infection
- woman's preference
- ensure woman aware of risks of pain and bleeding at home
- have contact details/plan for emergency care
- aware of uncertain time frame and possible need for later/urgent curettage
- support at home
- access to phone and medical care
- willing to participate in follow up at 1 and 2 weeks

#### 7.2.6 Treatment regimen:

- Registrar to obtain informed consent (and make admission booking)
- Consider tests for chlamydia and bacterial vaginosis
- Misoprostol 800mcg PV followed by a repeat dose of 400mcg in 4 hours
- Admit to ward for observation for a total of 6 hours
- allow to eat and drink
- Prescribe analgesia and anti-emetics (paracetamol 4 hourly PRN, diclofenac 50mg once only, narcotic and metoclopramide as needed).

If using medication management after 9 weeks gestation, consideration should be given to ultrasound examination after passage of POCs.

Exceptions to admission: if the woman has a strong preference to be at home, if she is well supported and clearly understands what is likely to happen and how to get help. This is more likely to be acceptable with sac/POC size on US < 15-20mm; less likely with sac/POC size on US >35mm.

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### 7.2.7 Follow up:

- ensure contraception/future pregnancy plans discussed
- anti-D as indicated
- provide contact numbers and see for review at any time if woman concerned by symptoms etc
- prescribe analgesia to take home, such as paracetamol with codeine
- If POCs not passed in ward, may offer surgical management or review in one week, possibly initially by telephone.
- If POCs not passed in one week, consider US confirmation and repeat medical or surgical treatment options if woman wants.
- If definite POCs passed (or very likely on basis of history), follow up at two weeks: if UCG neg and woman asymptomatic, US not needed. If UCG pos, further management depends on US findings, may offer medical or surgical options if POCs persist.

Advise woman to be reviewed by GP at 4-6 weeks or sooner if she has any concerns.

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### 7.3 Surgical management (suction curettage)

#### 7.3.1 Advantages:

- allows planned procedure with predictable time frame
- immediate relief from symptoms
- less blood loss and shorter duration of bleeding than expectant/medical management

#### 7.3.2 Disadvantages:

- risks of surgery-uterine perforation
- risks of anaesthesia
- some studies suggest increased infection risk.

Offer as an option and book for suction curettage if woman's preference.

#### 7.3.3 Indications:

Recommended treatment option if:

- hemodynamically unstable
- evidence of infection (surgery under antibiotic cover)
- unacceptable bleeding
- woman's preference (discourage if RPOC <15mm unless symptomatic)
- ≥9+0 weeks gestation on US (sac>35mm, embryo >25mm)

Suitable treatment option if:

- missed miscarriage with sac diameter on US 15-35mm (size equivalent to 7-9+0 weeks gestation)
- incomplete miscarriage with POCs at least 15-20mm diameter

#### 7.3.4 Anticipated outcome

Suction curettage has close to 100% success rate.

Largest RCT to date (MIST trial-Trinder et al, 2006) suggests no difference between medication and surgical treatment in terms of infection rates (of 2-3%) in the first 14 days post-op.

#### 7.3.5 Procedure

The miscarriage lists will be managed by the gynaecology registrars, who need to be informed of all patients booked and discuss as appropriate with the surgeon and/or consultant.

#### Registrar to assess patient

- perform speculum examination and VE if not already done (evidence of infection, cervical abnormality, open os)
- perform tests for chlamydia and bacterial vaginosis if not already done
- consider and decide re priming with misoprostol; not used as a routine unless:
  - nulliparous <18 years
  - embryo ≥10 week size present (NB US measurement, not duration of amenorrhoea)
  - cervical scarring/abnormality/PH cone biopsy
  - otherwise clinically indicated e.g. pinhole os
- not for priming in normal circumstances if incomplete miscarriage, fetus absent or < 10 week size, contraindications present
- include discussion of contraception/future pregnancy plans, as IUCD or Implanon can be inserted at time of procedure if appropriate/wanted.
- obtain written informed consent
- if indicated, prescribe misoprostol (400mcg PV 3hours pre op), PRN pethidine and anti-emetic; may use stat dose of paracetamol 1g and diclofenac 50mg orally with the misoprostol
- if indicated prescribe Anti D
- discuss any complex patients with the surgeon who will do the list and/or consultant if appropriate
- check results of infection tests; ensure follow-up/treatment occurs.

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### Registrar to make admission/theatre booking:

- to book theatre, ring extension 3330 and provide patient details, and whether direct admission or from ward (e.g. if having misoprostol, other complications).
- order list and arrange start time, with women needing misoprostol late enough to have misoprostol in situ for 3 hours prior
- plan management of other medical complications e.g. latex allergy first on list, insulin regimen for diabetic women etc
- arrange ward bookings and notify theatre which ward.

### 7.3.6 Provide patient information:

- admission time and place: provide completed admission sheet; usually Mon-Thu Day Surgery 0730, Fri admissions (WEC) at 0700
- fasting and any other specific instructions and provide 'Day Surgery Information Sheet'.

### 7.3.7 Follow up:

- Advise review appointment with GP e.g. 4-6 weeks.

## 8. Consumer information

Refer to the Women's fact sheets:

- [Miscarriage and pregnancy loss](#)

## 9. Resources

### Clinical Practice Guidelines

- [Pain and Bleeding: Early Pregnancy](#)

## 10. References

- Bourne T, Condous G. Handbook of Early Pregnancy Care. Informa Healthcare, 2006.
- Neilson JP, Hickey M, Vazquez J. Medical treatment of early fetal death (less than 24 weeks). Cochrane Database of Systemic Reviews 2006, Issue 3. Art. No.: CD002253. DOI: 10.1002/14651858.CD002253.pub3
- Royal College of Obstetricians and Gynaecologists. The Management of Early Pregnancy Loss. Guideline No. 25. London: RCOG; 2006.